

THE AMERICAN FARMER

Established 1819.

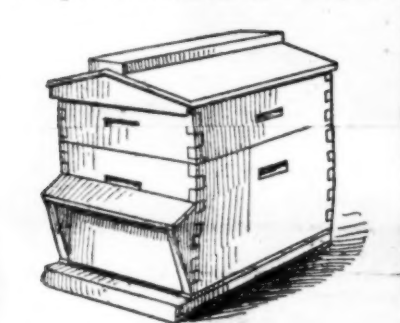
WASHINGTON, D. C., FEBRUARY 1, 1895.

76th Year. New Series.—No. 66.



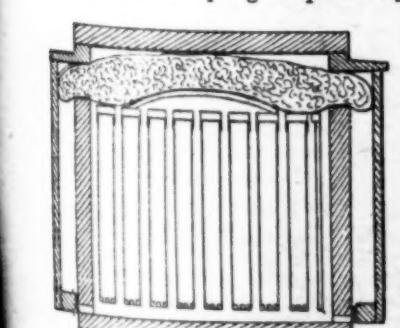
By FRANK BENTON
U.S. Dept. of Agriculture

IN THE COLDER portions of our country each colony of bees, as ordinarily brought through the winter, will be found during its early Spring flights to contain only a small part of the adult workers necessary to take fair advantage of any honey yield that is to follow. If an important honey-flow occurs early in the season, it is impossible to secure the full advantage of it. The bees to gather the honey are lacking.



The young workers do not, normally, even though honey be plentiful in the flowers, enter the field as gatherers before they are about two weeks old; adding to this the three weeks required for the development from the laying of the egg to the appearance of the imago, or perfect insect, we see that all eggs, to produce workers for a given harvest, must be laid five weeks or more before that harvest begins. But as the amount of brood which may be developed at one time in a hive is to a great extent limited not alone by the fecundity of the queen, but also by the supply of food, the number of bees to cover the brood, and the temperature about the brood-nest, it is evident that the five weeks required to get one generation of bees ready for the field will not suffice to render the hive suitably populous for a given harvest. It is not at all difficult to have queens whose fecundity is even greater than the ability, early in the Spring, of any colony to care for their eggs and developing larvae and pupae. Nor will the careful bee-keeper neglect the second point mentioned, and let the colony lack for food. But

THE OTHER CONDITIONS which limit the increase of population are not so easy to meet. We may house our bees or pack warmth-retaining material about the brood-nests, so as to keep the temperature moderately warm and as even as possible, and may thus favor brood-rearing. But we find, practically, that the only way to secure the desired number of bees in each hive for a given harvest is to see that brood-rearing is going on at a rapid rate some time previous to the five weeks' limit noted. In other words, three weeks or more must be added to this period in order to produce workers in sufficient numbers to care for the main brood, which is to develop into the field-bees for the given harvest. Thus our hives, all of which contain at the opening of the Spring comparatively



few bees besides those which went into Winter quarters, and which therefore are too old to avail much as gatherers, must, in proportion to the bees they contain, be well stocked with brood eight to ten weeks before the opening of the honey-flow. Moreover, this brood-rearing

should be kept up without interruption as long as it is expected that the workers can be utilized in the given flow.

WHITE CLOVER being, in our middle latitudes, an important yield which usually begins early in June, it follows from the above that our hives must be well stocked with brood toward the end of March. It has been argued by many whose experience it has always seemed to me should have taught them better, that early brood-rearing was disadvantageous; some—perhaps merely for the sake of the notoriety to be gained by being quoted as differing from the majority—have even gone so far as to say that brood-rearing should not be begun before May 1st in our Northern States. It is plain from the facts stated above that such a plan could only contemplate the securing of a crop of honey in July or later, and would lead to great disappointment in localities whose main honey-flow comes earlier, and where no Midsummer or Fall yield occurs. But in most localities in these States there are, aside from these later yields, usually

TWO GOOD HONEY-FLOWS before Midsummer; namely, that from fruit blossoms and that from white clover, just mentioned; in some places a third one is added—that from tulip trees (*Liriodendron tulipifera*) called in some localities poplar and in others white-wood trees. Where these occur there is no reason why the full advantage from all of them should not be taken, yet I venture that not one bee-keeper in twenty realizes how far he is from fully utilizing these earlier honey-flows—especially that from fruit bloom. When we are obliged to take time after the middle or latter part of April to develop strength in a colony, in order to have it ready for a harvest, the early honey-

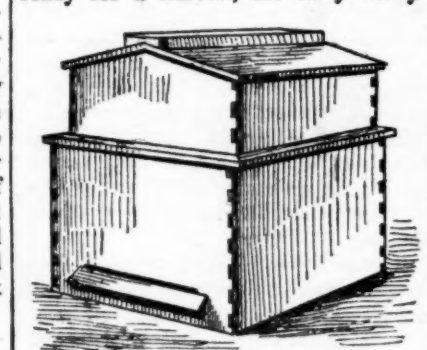


FIG. 3. A DOUBLE-WALLED, CHAFF-PACKED HIVE.

flow passes, with no return beyond what it furnishes toward building up.

SUCCESSFUL WINTERING is, then, the first essential toward securing the full advantage from an early honey yield. And by successful wintering I mean that the colonies ought to reach the earlier honey yield in condition to take full advantage of it; that is, in such condition as regards numbers and health as they are ordinarily found after this early yield has passed.

Let us see what course nature pursues in preparing her willing subjects—the honey-bees—to pass successfully the ordeal of Winter and enter upon a season of prosperity. Perhaps we can profit by imitating the plans of this ancient dame, who is supposed to have been wise even in the long-ago ages when our remotest ancestors were but inert molecules.

As a matter of fact, strong colonies of bees located in hollow trees, or in log hives, or box hives, and whose combs are therefore undisturbed in their natural arrangement, if well provisioned, and so constructed as to be fairly protected from extremes of weather and to permit the escape of surplus moisture, while at the same time retaining during the colder portions of the year as much as possible of the natural heat generated by the bodies of the bees, are, barring natural accidents or provisions having no connection with the above conditions, always in excellent condition on the opening of Spring and ready to fulfill the double work for which they were created; namely, first, the pollenizing of blossoms to

the end that more and better fruits and seeds should be borne, and, second, the collection and elaboration of a valuable sweet. I say always in excellent condition, for if the conditions named above are present, the colony will withstand our coldest Winters without freezing. Nor will it starve if well provisioned, for that implies an abundance of good stores suitably disposed for the bees to reach them during any kind of weather; nor will the inclemency of the weather cause the colony to become diseased as long as

THE BEES AND THEIR HABITATION ARE DRY.

Colonies in frame hives can be put into practically the same condition as those box-hive colonies I have taken as examples above; indeed, if we fully understand those conditions we can be more sure with frame than with box hives that they are uniformly and exactly complied with. Someone might argue that even

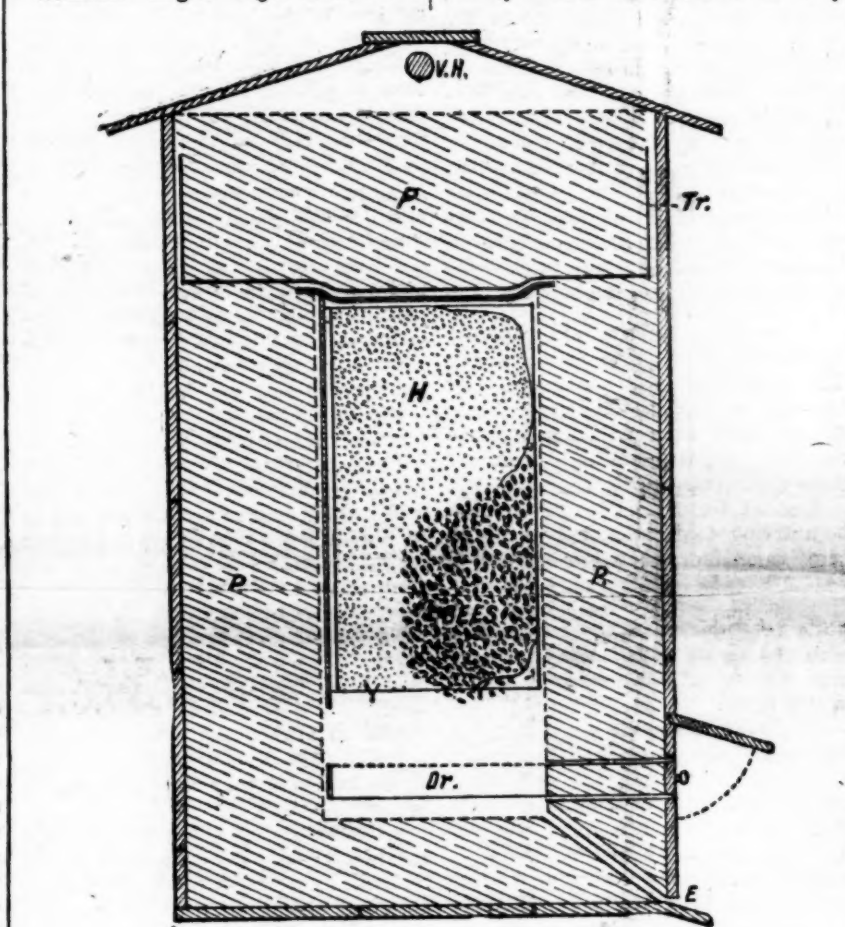


FIG. 5.—COLONY OF BEES PREPARED FOR WINTER. B, bees; H, honey; P, P. F. packing; Tr, tray with cloth bottom; Vh, ventilating-hole; E, entrance; Dr, drawer. Scale, 1 in.—1 inch.

when the preparation of the bees for their most trying season is left wholly to nature, such conditions are not always established by our good mother as do most favor the bees. They die. Admitted. Yet this by no means controverts what I have just claimed; for Nature, in working out her laws, purposely sets certain destructive forces over against our proteges. She looks well to all her creatures, and only exceptional merit will cause her to let one kind flourish to the exclusion of others, so nicely is the balance adjusted, and if no checks had been provided the bees would soon have overrun all. Perhaps

A STUDY OF THESE SAME NATURAL AGENCIES which are set as a limit to bee-life will also be a good lesson—will show us what we must fight constantly and what to avoid. In a state of nature we find colonies that go into Winter with queens decrepit, either prematurely or after years of good service, rendering them unable at the most critical period—late

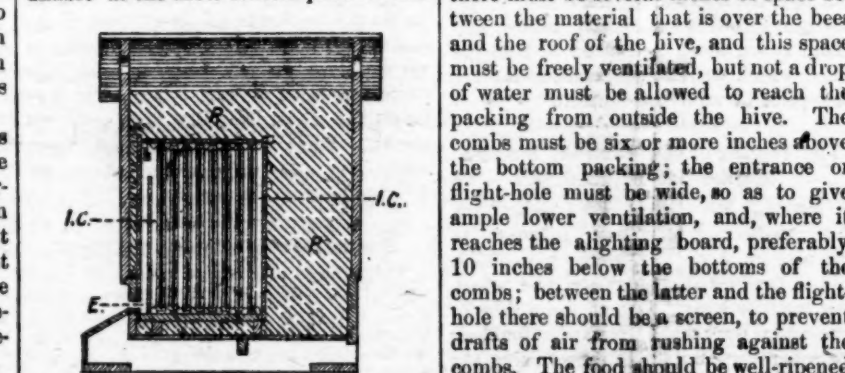


FIG. 4.—H. D. DAVIS' NEW ENGLAND HIVE. Winter arrangement: Lc, inner case; P, packing; E, entrance.

Winter and early Spring—to keep up the population of the hive; or, again, repeated swarming may have unduly reduced their numbers. Such weak colonies may not be able to keep up sufficient heat to drive off the moisture surrounding the cluster; it gathers and trickles down over the combs and bees, rendering their food sour and themselves unable to withstand a low temperature. The soured food is sure to bring on dysentery if the bees are confined to it for any length of time, or the dampness of the bees themselves, com-

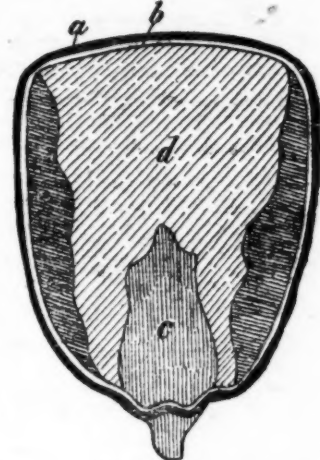
bined with chilling of their bodies, will produce the same effect. Or, again, an unfavorable season has prevented their securing an abundance of stores, or what they may have obtained is perhaps not so located that severe weather will find them able to reach it. Or the bees may have failed to find the most suitable habitation, such as would properly protect them from inclement weather and permit evaporation without great loss of heat, yet give them pure air. All such causes, unaided by man, combine to exterminate thousands upon thousands of colonies every Winter; and man, with his interference in the brood-chamber of the colony and the surrounding conditions, is often another destructive agency.

DETAILS AS TO THE PLAN OF WINTERING which has resulted from the foregoing considerations and from my successes and failures of over a quarter of a century—much of the time in very

At that time the colony will have been breeding for over a month, and gentle stimulation with thin food, at night, without permitting any loss of heat, and without manipulation nor disturbance, will not induce flying out during unreasonable weather. The stores in the combs being ample, brood-rearing will go on apace, and apple-blossoms will find us ready with the bees for the harvest.

COMPOSITION OF CORN.

New Jersey Agricultural Bulletin.



The average of a large number of analyses shows that 100 pounds of the dry matter of corn contain:

Crude fat	5.59 pounds.
Crude fiber (cellulose)	2.46 "
Crude protein	11.52 "
Crude ash	1.68 "
Carbohydrates (chiefly starch)	78.75 "

A glance at these figures shows that corn is made up chiefly of the class carbohydrates, or starch.

The constituent contained in corn next in amount to carbohydrates is protein—a collective term which includes all of the albuminoids—and to which the name "gluten" is commonly applied.

The accompanying enlarged cut of a corn, or maize, kernel will assist in locating the four distinct parts.

a is a husk or skin, which covers the whole kernel; it consists of two distinct layers, the outer and inner, which when removed constitute the bran, and contain practically all of the crude fiber of the whole grain.

b is a layer of gluten cells, which lies immediately underneath the husk; it is yellow in color, and cannot be readily separated from the remainder of the kernel. This part is the richest of any in gluten.

c is the germ, which is readily distinguished by its position and form; it also contains gluten, though it is particularly rich in oil and mineral constituents.

The large portion **d**, is composed chiefly of starch; the dark color indicates the yellow, flinty part, in which the starch-holding cells are more closely compacted.

"Intense" Farming in the South.

As an instance of the difference between the old slavery-days farming and farming by the employment of more modern methods and improved machinery in the South, the following illustration is given: G. T. Douglass, a young farmer of Mecklenburg County, N. C., in 1893 planted 13 acres of land in cotton, and harvested six bales by the old method of farming. Last year he planted three acres of the same land in cotton with the purpose of cultivating it "intensely" as an experiment. Result: On three of the 13 acres, which yielded him but five bales of cotton the year before, he harvested four bales of cotton. Difference: Under the old system of cultivation his land raised less than one-half a bale of cotton to the acre; under the improved methods it raised 1 1/2 bales. This practice of "intense" farming is rapidly spreading in this State, and the tendency is decidedly towards smaller and better-cultivated farms.

How Celery Should be Kept.

Celery may be kept in the best condition in a cellar, packed in barrels, with the roots as they were taken from the ground. Some of the top leaves may be trimmed off, and the plants should be packed closely in the barrel, so as to exclude the light. If some soil is taken up with the roots, the celery will go on blanching without shrinking and keep succulent all the Winter. Or the plants may be kept in the ground, where they were grown, if they are banked up with earth high enough to exclude the frost, and may be taken out as may be needed for use. In this way the quality is improved.

Black walnut is a scarce wood these days, but old farms about Philadelphia still afford to the cabinet maker noble specimens of the tree. It is said that a black walnut 100 years old will fetch in that region about \$100.

ENGLISH SPARROWS.

A Use Found for Them at Last.

BY DR. J. H. PORTER, OF THE SMITHSONIAN.

When it was proposed to introduce English sparrows into the United States, ornithologists warned the projectors of that enterprise of its probable consequences. The latter, however, being practical men, ignored these theoretical objections and promptly carried out their plan. At present the practical question is how we are to get rid of them.

Formerly it was confidently expected that they would combine with our native birds to check the ravages of plant-eating insects. What they really did was to drive away insectivorous groups, and take part with the pests in their work of destruction. Moreover, when transferred to a continent, this species seems to enlarge its great natural power of getting along in life, and as that ability is exercised to the disadvantage of most creatures with which it comes in contact, a strong reaction against these insectivores soon set in, and the ravings of their conduct provoked greater with the sparrows' rapidly-widening range. Farmers and cultivators of all kinds said they were utterly detrimental. Nevertheless, there is some reason for thinking that this hearty and comprehensive excretion is not altogether merited.

No sparrow will look at a webworm, hairy caterpillar, or any insect with hard wing-cases and body-plates; but many varieties are destroyed while young and tender, although not to the same extent as seeds, buds and shoots. The writer has also had an opportunity to observe that these birds are active enemies of a cattle scourge which already causes much trouble, and threatens to be more serious hereafter.

As its name indicates,

THE TEXAS HORN-FLY

is believed to have originated in that State. Whether or not the fact be as it is given by common report, nothing concerning this insect came to the author's notice either in the border States of Mexico or those grazing districts lying between the Rio Grande and Pacific.

On the other hand, it is said that this fly can be traced back to the site indicated from any northern point where it has appeared. This destructive parasite is of a small size and black. It has powerful jaws, and settles around the horns of cattle, cutting away hair and skin until great excoriation is often produced. Animals thus attacked are necessarily restless and soon become ill. Fever supervening upon irritation and pain involves functional derangements. Diminished vigor with loss of weight are sure to follow, while death from inflammation of the brain membranes not infrequently ensues.

The writer had an opportunity to observe this insect's dissemination, and its consequences, from the Pennsylvania line to southwestern Georgia. In certain instances the fly's presence was a direct result from an importation of Texas stock, but more frequently this breed was unknown in those regions where the horn-fly was found. It attacks all kinds of domesticated cattle, and where the pest has been carried by them for long distances, it was in the form of eggs deposited upon their coats, which were thus transported, and subsequently developed in new situations.

PRIMARY AND DIRECT DISPERSAL.

however, is not the rule. Infection spreads most widely by indirect means. Some center of contagion is established on a route of travel, and thence the evil is multiplied, for the most part, by contact between individual animals or small groups. In that way it is propagated in all directions. One or more cows or steers which carry ova inoculate, so to speak, others with whom they associate or casually meet. They likewise, when the time comes, enable larger or smaller swarms to originate. These, under their proper forms, may transport themselves to contiguous herds, but probably never go very far on their own account, or without being accompanied by the creatures upon whom they prey.

An illustration of this process is afforded by the appearance of horn-flies in West Virginia. No Texas cattle are connected with them there; their introduction was due to a gradual propagation by the mode pointed out. In the same way this infection spread eastward into the Shenandoah Valley, across mountain barriers, that the fly by itself could not have surmounted, because it is customary on both sides to turn out stock during the Summer, and let it wander at will among those heights, where animals from either quarter met.

There are numbers of ASSOCIATIONS IN NATURE, for the most part existing between strikingly dissimilar beings, and generally founded upon an obvious mutual advantage. Some, as for example that of crocodiles, with the birds that enter and cleanse their mouths from parasites, must have been exceedingly difficult to establish, but there is no reason to think



this was usually the case. All except that connection under consideration seem to be of immemorial antiquity. The latter may be said to have begun yesterday. It is not intimate, and, perhaps, never will become so. English sparrows are not known to accompany cattle for the purpose of feeding upon these attendant flies. When the latter happen to be encountered they are destroyed, much in the same way that so-called cow blackbirds free the skins of the grazing stock from ticks, and in case an extensive sore surrounds their horns, it is quite possible that they may aggravate the injury already inflicted. Another point connected with this recent association is that as the fly advances northward, any connection between English sparrows and cattle which depends upon this insect's presence must be more and more interrupted by increasing cold. Practically the birds themselves rise superior to vicissitudes of almost all kinds by means of adaptive powers which are well nigh unequalled. On the other hand, human needs insure protection to the species that horn-flies infest. Wherever climate, however, does not bar their distribution, these nuisances bid fair to spread, and in all such provinces the presence of so active and energetic an enemy as the sparrow is, no doubt, upon the whole, an advantage in this respect to the farmer and grazier.

So far as the writer knows, nothing has been done towards protecting cattle. After they have been seriously injured, the raw surface is in some cases smeared with coal tar. The region attacked is, however, of very limited extent, and among the numerous preparations known to be inimical to insects at large, one would think that effective preventives could be found.

What Corn Fodder Is.

The common terms, corn fodder and stover, have different significations in different localities. The whole stalks after the corn has been husked and gathered are called stover in New England, whence the term has been carried into the West. The meaning of this term in common language, is any supply of food, but agriculturally it is applied to provisions for animals of any kind. It is used in England to signify any coarse forage, as the stubble of a clover field or waste hay that is used for thatching roofs of cattle shelters. It is used in this sense by Shakespeare. The word is derived from the French—estover, or estovoir, meaning simply any provision. Corn fodder or fodder corn is applied to the whole plant with the ears on. In the South it applies only to the leaves or blades of the plant; the stalks, there usually cut off above the ears, which are left on the stems, to be afterward gathered at any convenient time, are called tops. In general, however, corn fodder is understood to mean the whole stalks after the ears have been gathered from them.

Florida's Great Loss.

The heavy freeze that prevailed all over the South was a terrible blow to the fruit growers of Florida. The total orange crop of the State was estimated by experts at 2,000,000 boxes, few of which had been gathered before the frost. As the average price of these oranges to the consumer was about \$2 per box, this would make a loss of \$4,000,000 on the 2,000,000 boxes which have been destroyed by the frost. The \$4,000,000 loss on the oranges is by no means all; young trees and many of the old ones have been killed. The full extent of this loss cannot be known until Spring. Mr. M. E. Gillet, one of the largest growers of the State, and head of the Florida Fruit and Vegetable Growers' Association, says: "The blow which the State has received is severe, but by no means fatal. The people of Florida have not lost hope, and they do not propose to feel discouraged because they are visited by a heavy frost once in half a century."

Established - - - 1819.

76TH YEAR.

THE AMERICAN FARMER.

"O fortunatum numerum aut si bona noverit opti-
citas."—VIRGIL.

Published Monthly at Washington, D. C., and
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The American Farmer Company,
1129 New York Ave., WASHINGTON, D. C.

SOUTHERN EDITION OFFICE:
228 East Baltimore Street, Baltimore, Md.

Entered at the Postoffice at Washington, D.
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The Young Sportsman	50	75
Our Illustrated Press	50	75
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Compendium Magazine	1.00	1.25

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SHALL COME.

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paper is sent you
that you may
have an oppor-
tunity to see it and
examine it, with a
view to subscribing.
We ask you to
compare its contents,
objects, and price
with those of other
papers, and see if
you do not come to
the conclusion that
you ought to have it;
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than repays you for
the subscription price
for a year. Please
call your neighbor's
attention to the paper.

The next thing that the Germans
are trying to shut out
are our dried apples—
"apple rings," as they
call them. Official
circulars have been
sent out warning
the people that these
contain a danger-
ous quantity of zinc.
This is even more
absurd than the tri-
chine and Texas
fever pretense.

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OF THE WORLD.

Part 19. Number 19.

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WHAT WE CAN DO.

EDITOR AMERICAN FARMER: Please state in
your good paper what kind of products the
American farmers can raise to feed the \$300-
000,000 of agricultural products which
we buy abroad every year? What will pay
the best?—Wm. H. Medler, Albion, Ill.

We do not want to raise anything to
offset these; we want to raise the things
themselves, and stop buying them abroad.
We must put that \$300,000,000 a year
in gold into the pockets of our own farm-
ers, instead of draining it out of the
country.

In the first place, \$140,000,000 of it
goes out for sugar and molasses. Noth-
ing is now more clearly demonstrated
than that we can and should raise every
pound of this at home. Anybody can
see that if we continue raising wheat at
present prices, to send out and get gold
with which to buy sugar from Cuba,
Germany, and France, that we are bank-
rupting the country. The railroads,
steamships and middlemen get rich, but
the farmers and the country grow poor.
If that \$140,000,000 a year were dis-
tributed among the farmers of Ohio,
Indiana, Illinois, Wisconsin, Michigan,
Minnesota, Iowa, the Dakotas, Kansas,
and Nebraska, agriculture would soon
take on a very different complexion
there.

Next, we buy about \$24,000,000 worth
of fruits and nuts that we might raise at
home. That is \$2,000,000 a month,
which would fit very comfortably in the
pockets of the farmers of the Gulf States
and California.

We buy from \$1,000,000 to \$5,000,000
worth of barley abroad, and about
\$1,500,000 worth of bristles.

In 1893 we imported \$5,000,000
worth of unmanufactured cotton. In
1890 we bought abroad \$2,046,789
worth of unmanufactured flax, and \$8-
142,685 worth of unmanufactured hemp.
Our importations of hops run from \$1-
000,000 to \$1,612,000 a year.

We imported \$14,596,224 worth of
hides in 1893.
We buy \$2,000,000 worth of veg-
etable oils, \$1,411,649 worth of cheese,
\$2,500,000 worth of rice, \$30,000,000 of
raw silk.

We send abroad \$12,000,000 a year,
or \$1,000,000 a month, for unmanu-
factured tobacco, every pound of which
could be raised somewhere between
Penobscot and Key West, and between
Accomac, Va., and Santa Clara, Cal.

We pay out \$500,000 a year for
foreign eggs, buying hundreds of
thousands of dozens as far away as
China. Our importations of vegetables
run all the way from \$4,304,897 to
\$6,899,848 worth a year, and yet
we have the finest soil in the world and
hundreds of thousands of men out of
work.

In 1890 we bought \$16,165,042
worth of unmanufactured wool abroad,
and 1893 \$18,403,688 worth.
These are only some of the leading
articles that our soil and climate are
adapted to which we buy abroad in
immense quantities. It is seen that
there is no difficulty in making up a
total of \$300,000,000 a year given to
foreigners who buy comparatively little
of us. There are hundreds of other
similar products, of which we buy from
\$10,000 to \$1,000,000 worth a year,
which we might put in to swell the list,
but it is big enough as it is.

It is an economic folly that ap-
proaches wickedness that, with our
agriculture in the shape that it is, with
so large a proportion of our farmers en-
gaged in raising products upon which
there is no profit, with millions of acres
not paying the cost of tillage, with
millions of our people out of employ-
ment, with every section of the country
complaining bitterly of a lack of money,
with the Government harassed to keep
up the gold reserve, that this great
Mississippi River of outflowing gold
should be allowed to sweep on to
foreign lands, without an effort to check
the impoverishing drain.

THE SUGAR BOUNTY.

Concerning the preamble of the Constitu-
tion of the United States which the initi-
ators in Congress stretch over every conceiv-
able project of legislation, the Court of Ap-
peals of the District of Columbia says: "If it
may be for the 'general welfare' of the
United States to encourage the production
of sugar by the grant of a bounty, it is hard
to conceive why the producers of corn, wheat,
cotton, wool, coal, iron, silver, etc., might
not be paid a bounty also." Why not, to be
sure? If a direct bounty on sugar be un-
constitutional, as the court declares, so also
are the indirect bounties granted to manu-
factures in the name of Protection. There is
no more warrant in the Constitution for one
species of legislative favoritism than for the
other. Instead of asking for a bounty that
has been repealed, the sugar producers should
restore what they have unlawfully received
from the public Treasury.—Philadelphia Record.

This is a specimen of the meretricious
reasoning of this class of papers. To

their debauchment of public opinion the
present deplorable condition of the
country is directly due. There is abso-
lutely no parity between the production
of sugar and that of corn, cotton, wheat,
etc., for the reason that we are producing
far more than we need of the latter, and
selling them abroad at a loss. On the
other hand, we are producing far less
than we need of sugar, and are compelled
to send abroad every year the enormous
amount of \$140,000,000 in gold to pay
for what we buy. It is a sufficient
answer to the *Record's* claptrap to say
that if we were sending out \$140,000,000
a year for wheat, cotton or corn, it would
be the Government's imperative duty,
under the "general welfare" clause of
the Constitution, to take whatever steps
might be necessary to encourage the pro-
duction at home of a sufficient quantity
of those staples to supply our own people.

PLAIN AS YOUR NOSE.

The way to keep gold in the country
is not to send it abroad.

The way to keep from sending it
abroad is to produce things at home
which are bought abroad with gold.

The way to begin is to raise in the
United States the \$300,000,000 worth
of farm products which we buy every
year from foreigners.

Anybody ought to be able to see
this.

We may learn a useful fact in tree
economies from Luxemburg. Our Con-
sul there reports:

Twenty years ago, nearly every road in the
Grand Duchy was bordered by rows of Lombardy
poplars—gigantic and majestic, no
doubt, but useless and even injurious. The
roads of this tree trade in every direction 30
and, sometimes, even 60 feet, causing much
injury to the neighboring fields. About 20
years ago, thanks to the initiative of the Gov-
ernment, a movement was inaugurated favor-
ing the replacing of the poplar trees by elm,
chestnut, plane, linden, and other trees. Still
later, a further improvement was introduced.
This consisted of the employment of fruit
trees, especially of apple trees—the preference
being given to the varieties best suited for the
production of cider—for bordering purposes.
To-day, this roadside fruit culture is found
profitable and satisfactory, both on highways
and country roads.

The success which has been achieved in
roadside fruit culture in many German States,
particularly in Wurtemberg, Palatinat,
Baden, Saxony, etc., has induced the
authorities of the Grand Duchy of Luxemburg
to abandon what is now regarded as an
error of the past, and to adopt with enthu-
siasm the new system. As an example of
the interest taken in this subject by village
authorities, the commune of Ettelbruck may
be cited. In the course of a single year
(1890) this commune planted along its par-
ochial roads more than 600 fruit trees.
There are many rural communes having from 500 to
1,000 inhabitants which have planted from
1,000 to 2,000 fruit trees along their roads.

The Government causes a professor of the
agricultural school at different times and
places to instruct cantonal officials and over-
seers of highways in the science and caring
for, pruning, and training fruit trees.

The latest reports from the Argentine
Republic place the wheat crop at 2,000-
000 long tons, of which three-fourths will
be exported. This means a total of
53,571,428 bushels, of which about
40,000,000 will be exported. This is
not nearly so much as at first expected,
but it is enough—taken in connection
with the enormously increased shipments
from Russia—to permanently depress the
wheat markets of the world. The very
highest exportation of wheat and flour
ever made from the United States was
170,000,000 bushels. During the
palmy days of our wheat shipments,
Argentine wheat was unknown in the
markets of the world, Russian only a
small factor. Now Russia is in the
markets with something over 100,000-
000 bushels for export, to which Argenti-
na adds 40,000,000 bushels, Hindustan
22,000,000, Romania 28,000,000,
Australia 36,000,000, Canada 15,000-
000, and other countries in proportion.
Great steamships, which will carry grain
at the lowest possible rates, have brought
into competition with us countries
that have never before been counted in
the production of exportable bread-
stuffs.

NEW YORKERS are confident that free
wool will shift the center of the Ameri-
can wool market from Boston and
Philadelphia to their city, and im-
mediately after the elections of 1892
made free wool a certainty, preparations
were begun for a great wool warehouse
and exchange in New York. These
plans are now about completed, but the
Boston and Philadelphia merchants do
not seem to be much disturbed over the
matter. They think the worst happened
to them when wool was made free.

The Charleston News and Courier
is making a fine campaign for "Hog and
Hominy" in South Carolina. That is,
for the farmers to raise their corn and
meat, whether they raise so much cotton
or not. It is common sense that it will

not pay to raise cotton at five cents or
under, and buy corn at 60 cents a bushel
or over. Let each farmer begin by
planning to raise all the corn and meat
he needs, and devote what land and
labor he has over to raising cotton.
This means solvent, if not wealth.

SENSIBLE ADVICE.

How Can We Get the Best Results
From Our County Fairs?

Read by John W. Harper before the meeting of
the Northern Breeders' Association at Indian-
apolis.

First of all, by helping to drive all
gambling and liquid damnation from the
fair grounds. Let us leave such "luxu-
ries" to our city cousins; they live more
by their wits and are harder-headed than
farmers. If we ourselves take a "wee
nip" when we go to town or on a long,
tedious chase of a damp, chilly day,
we at least do not want it poked under
the noses of our boys when we take them
to the fair-ground. A wholesome, moral
atmosphere is as essential as air free from
miasms and disease germs. We can get
best results from our fairs when we can
take our families there without fear of
moral contamination. The fair that can-
not live without gamblers' license and
beer money had better die.

We should see that Short-horns have a
full class, from three-year-olds down to
and including calves of both sexes.
They should have this class whether any
other breed gets such recognition or not.
It is our business to look after our own.
The adherents of other breeds can look
after their interests. It is our duty to
see that our favorite breed is always be-
fore the public eye. Let us get all we
can at all times in the way of recogni-
tion in the prize list. Always insist on
having a separate class for Short-horns—
not that we are afraid to meet other
breeds, but because Short-horns play so
prominent a part in the improvement of
the cattle of the country that they de-
serve a separate class in order to empha-
size the fact that they constitute our most
important breed of beef cattle. Then,
get as much prize money offered as pos-
sible. If possible get three prizes in each
ring, so that every exhibitor can get a
piece of it. Don't let one man "hog" it
all. His cattle may be only a hair's
breadth better than his competitors. In-
vite competition from neighboring Counties.
If there are better cattle in the
next County it is to your interest to find
it out. Don't wrap yourself up in the
mantle of your own ignorance and con-
ceit and imagine that no one has better
cattle than yours. You can make no
progress that way. If the other fellow
can beat you, find out where he gets his
good cattle, and go get some for yourself.
Swap ideas with breeders in neighboring
Counties. Don't be narrow-minded and
imagine your fair is four own dunghill,
on which no one else has a right to stand
and crow. Having invited your neighbor
from an adjoining County, don't
"put up a job" on him when it comes to
the judging. He may be a stranger, but
do not "take him in" in that way. The
law of hospitality forbids it. Endeavor
to educate your fair managers to the
single-judge system; explain its advan-
tages to them. Impress on them the
necessity of getting reliable, competent
men as judges. Insist on this.

The best way to get something out of
a fair is to take something into it. I
don't think much of the man who "has
a better calf home." If he had a good
bull, cow, or calf it is his duty to the
breed, to the fair, and to the cause of
live-stock improvement to put it on ex-
hibition at the County fair. Most of
the education of farmers in live-stock
improvement is done at these fairs; com-
paratively few farmers get to the State
fairs. But do not pull cattle out of a
dried-up, over-worked pasture and take
them to the fair in "just ordinary breed-
ing condition,"—which many time means
that they are so skin-poor that the
crows would turn from them in disgust.
Put them in decent shape. That does
not mean fat-stock show condition, but
it does mean to put them in such con-
dition that a man will not think he is
looking at dairy cattle instead of beef
cattle.

By cleansing our County fairs of the
moral pollution of gambling and liquor-
selling; by working for full and separate
classifications and adequate prize
money; by inviting the world to send
the best it has to be compared with ours;
by getting honest and competent judges,
and by exhibiting our cattle in tidy,
attractive condition, we as Short-horn
breeders can get the best results from
our County fairs.

Government Crop Estimates.

The estimates of the area, product,
and value by States and Territories of the cereal
crops, together with those of hay, potatoes,
and tobacco, have been completed by the
Statistician of the Agricultural Department
and are presented as follows:

The corn crop of 1894, in rate of yield, is
one of the lowest on record. In the past 13
years the yield per acre of but one year,
namely, 1881, was lower, the yield for that
year having been 18.0 against 19.4 for the
year 1894. Severe drought and dry winds in
a few of the principal corn producing States
reduced the area harvested for its grain value
to 62,582,000 from the 76,000,000 acres
planted.

The product garnered is 1,212,770,000
bushels, having an estimated farm value of
\$554,719,000.

The wheat crop is above an average one in
yield per acre. The entire product for the
country is 460,267,416 bushels, which is be-
low the average for the five years 1890 to
1894, inclusive. The farm value of the crop
is \$235,902,025.

The area, according to revised estimates, is
34,882,436 acres. In the revision of acreage
the principal changes have been made in the
Spring wheat States. The rate of yield is
13.3 bushels per acre. The average value per
bushel 49.1 cents.

The estimates for oats are: Area, 27,023,553
acres; product, 662,086,928 bushels; value,
\$214,815,920; yield per acre, 27.5 bushels.
Rye: Area, 1,944,760 acres; product, 26-
727,616 bushels; value, \$15,394,456.
Barley: Area, 3,170,492 acres; product, 61-
400,465 bushels; value, \$27,134,127.
Buckwheat: Area, 789,233 acres; product,
12,083,200 bushels; value, \$7,040,333.

Potatoes: Area, 2,737,973 acres; product,
170,757,338 bushels; value, \$91,536,757.
Hay: Area, 48,321,372 acres; product, 34-
874,408 tons; value, \$428,375,321.
Tobacco: Area, 523,103 acres; product, 666-
678,385 pounds; value, \$27,760,739.

MAIZE IN EUROPE.

Increasing Consumption in Leading
Countries.

The following tables, which refer to the
year ending July 31, 1894, and which are
furnished by the U. S. Department of Agri-
culture, present some interesting information
relative to the consumption of corn in Europe,
and to the sources whence the importing
countries draw their supply:

IMPORTS—BUSHELS OF 50 POUNDS.
United Kingdom..... 10,160,000
France..... 10,480,000
Germany..... 2,720,000
Belgium..... 4,800,000
Holland..... 6,860,000
Denmark..... 1,440,000
Switzerland..... 1,712,000
Austria-Hungary..... 6,421,000
Total..... 54,493,000

IMPORTS INTO THE UNITED KINGDOM.
1893-94. 1892-93.
From Roumania..... 25,721,000
United States..... 15,819,000
Canada..... 2,476,500
Russia..... 8,900,000
Turkey..... 2,768,000
Bulgaria..... 1,911,500
Poland..... 1,200,000
Other countries..... 205,100
Total..... 71,016,600

IMPORTS INTO GERMANY.
1893-94. 1892-93.
From United States..... 14,500,000
Roumania..... 14,000,000
Russia..... 2,518,000
Turkey..... 920,000
Austria-Hungary..... 984,000
Bulgaria..... 1,500,000
Argentina..... 328,000
Belgium..... 144,000
Holland..... 40,000
Serbia..... 408,000
Other countries..... 460,000
Total..... 32,690,000

IMPORTS INTO FRANCE.
1893-94. 1892-93.
From Russia..... 1,756,000
Roumania..... 4,704,000
Turkey..... 2,250,000
America..... 2,250,000
Argentina..... 436,000
Other countries..... 460,000
Total..... 11,810,000

It will be seen that the eight countries men-
tioned imported during the year over 134 mil-
lion bushels of corn, or 60 per cent of the
United Kingdom took over 70 million and
Germany 33 million bushels; France took 10
million, and Holland and Austria-Hungary
each 6 million; Belgium took nearly 5
million, and Denmark and Switzerland
nearly 1 million bushels each. The bulk of
the corn imported into the United Kingdom
comes from Roumania and the United States,
but Russia, Canada and Turkey, in the order
named, are drawn upon to make up about a
fourth of the supply. Nearly half of that im-
ported into Germany comes from the United
States. America furnishes not more than a
fifth of the French supply. In supplying
Holland, America is slightly in the lead.
The figures given above show a marked in-
crease over the previous year. One of the
features shown by the table of special im-
port into our own farmers is that, while Argenti-
na has been cutting a wide swath in the
international wheat market, her exports of
corn to European countries have fallen off
greatly. They aggregated nearly 11 million
bushels in 1893, and but 2 million in
1894. It will occasion surprise to some
Americans that the little kingdom of Rouma-
nia furnished the principal corn-importing
countries of Europe more corn than the
United States. Roumania supplied 48 mil-
lion bushels and the United States 46 mil-
lions in the year 1894.

"WRAPPER TOBACCO."

A Very Unfavorable Decision by the
Board of General Appraisers.

A very important decision has been made
by the Board of General Appraisers in the
matter of the protest of F. Garcia & Co.,
a Cuban firm, against the decision of the
Collector of Customs at Burlington, Vt.,
to assess the rate and amount of duties on
certain imported cigars. It appears that
the cigars were imported in June last, the
importer withdrew it and took it back to
Canada, and then brought it in again under
the new tariff. The case was then taken up
again to the General Appraisers. When the
cigars were first imported, the General Ap-
praisers upheld the decision of the Collector
at Burlington, that the tobacco should be
assessed as wrapper. It was so assessed
again when it was reported under the new
law, and then the General Appraisers re-
versed their former decision, and hereby
as applying to the test case of two of the
bales on which protest was made:

"Between the hearing in June and the
present re-entry the new tariff had gone into
effect, wherein paragraph 185 enacts in its
first proviso that the cigars wrapper tobacco
shall be taken to mean that quality of leaf
known commercially as wrapper; and the
second proviso determines the term 'filler'
shall be taken to mean all leaf tobacco un-
manufactured not commercially known as
wrapper."

In contemplation of this language it is
readily seen that the same merchandise of
this description, under trade testimony, might
be properly classified differently under the
first and second provisions of the law. The
results of our decision made at the June hear-
ing, and having taken the testimony of
skilled witnesses summoned from the trade,
other than those summoned in June, and
such testimony having been given after an
examination of all the evidence, and the tes-
timony of the witnesses appearing at the June
hearing being also considered, we find that
bales Nos. 176 and 178 are filler tobacco,
not containing that quality of leaf tobacco known
commercially as wrapper.

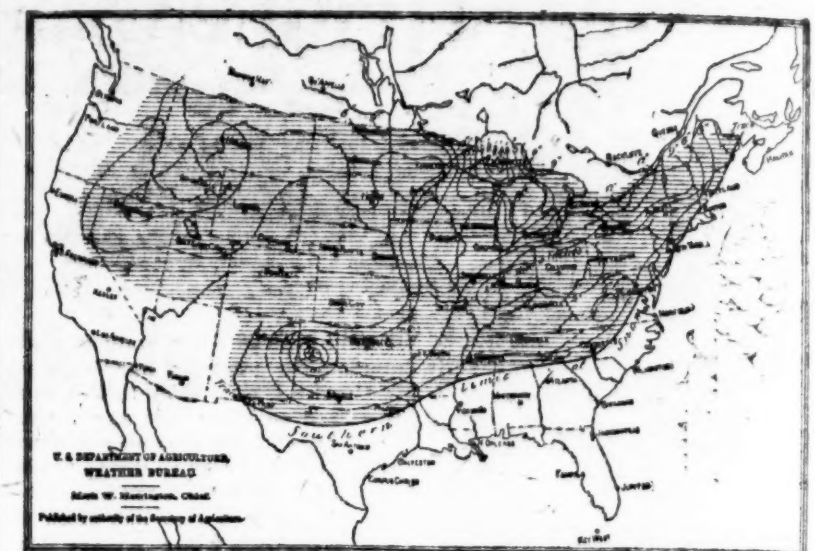
The gist of this is that the wrapper to-
bacco is a common fraud among im-
porters, by which they packed a small quan-
tity of filler tobacco with a large quantity of
wrapper tobacco, and paid duty on the whole
as "filler tobacco." The McKinley bill
stopped this by providing that if any portion
of the tobacco contained in a package should
be suitable for wrappers, the whole package
should pay duty as wrappers.

The new tariff provides "that the term
wrapper tobacco when used in this act shall
be taken to mean that quality of leaf to-
bacco known commercially as wrapper to-
bacco," dutiable at \$1.50 per pound, un-
stemmed, and \$2.25 per pound if stemmed.

The decision of the General Appraisers re-
versed the decision of the Collector at Burling-
ton, and since his death it has been
carried on by Prof. T. V. Munson,
Conf. C. V. Riley, the entomologist, prob-
ably that portion relating to the "Insects
of the Grape." This book is thoroughly il-
lustrated by fine photo-engravings.

Feeding Corn Stalks.
Corn stalks, if well saved and not
overripe, are very nearly as good feed as
common meadow hay, and if cut, and
wilted, and mixed with sufficient grain
food, will be quite sufficient for cows
kept in a winter dairy. A very good
ration based on this kind of roughness
may be made up of 25 pounds of these
stalks with five pounds of meal of
whole corn, grain, and cobs together,
and three pounds each of wheat, bran,
and cottonseed meal.

Depth of Snow on Ground at 8 P. M., January 28,
1895.



THE GARDEN.

Pluckings.

New York hothouse strawberries from New Jersey, now in the market, sell at \$3 a basket. The fruit is large, perfect, and beautiful, but the baskets are small; they run about 14 berries to the basket.

The best soil for asparagus is a warm, sandy or gravelly one with good drainage. A soil with hard pan bottom will answer if worked deep and underdrained with tile, but it is best to avoid such, because of the cost of preparing it for the reception of the plants. It is not advisable to place manure under the plants; but all manuring, except that used at the time of setting out the plants, should be applied to the surface and worked in with a light plow or cultivator.

Thayer's Berry Bulletin for February, 1895.

Every man, woman and child having a rod of ground should grow strawberries.

They may be produced on almost any soil, and a child may grow them.

There is no fruit so delicious, none more productive, none more healthful, none so easily grown, none so cheaply grown and easily protected from the hot winds and drought of summer or the blizzards of winter of the north.

It is the rich man's berry; it is the poor man's berry; it is everybody's berry and should be as universally grown as wheat, corn, or potatoes.

The same common sense that grows a good pig, a good cow, or a good crop of grain, will just as surely grow a good crop of strawberries. In fact, the process is about the same.

You cannot grow good pork from a weak, sickly pig, nor can you grow good berries from a weak, sickly plant.

Always get the best, whether pig or plant. The soil is a storehouse for plant food. It is the most convenient place for keeping raw material to be converted into agricultural and horticultural products, as needed. It is a bank of deposit for fertility.

All may do business at this bank, but the inner doors are many, the locks formed by nature's own cunning hand, and one must work the combination well to succeed best.

Berry plants are huge feeders and hard drinkers; they require the atmosphere above and the soil beneath to sustain them.

Every little fibrous root is a suction-pipe, pumping up food and moisture from below. Neither are they particular what they feed on. When well prepared for their use, they will take all refuse, all droppings and droppings—in fact, anything and everything from kitchen slops to a dead dog—work them up into the choicest table dainties and never tell from whence they get their sunset tints or their delicate flavors.

To grow animals or crops of any kind with most profit, they should have all the good, well-prepared food they can utilize.

This, to the fruit-grower, means rich soil well prepared, and always in good condition.

It is imperative that all poor plants be discarded. Weak plants cannot produce vigorous growth or fine fruit.

Practice careful selection, keep only the best, produce only the best, grade up with care.

Each year should show improvement in growth, in soil, in plant, and in product.—M. A. THAYER, Sparta, Wis.

Sweet Potatoes.

EDITOR AMERICAN FARMER: Will you please give me full directions how to prepare a bed for sweet potatoes, and what heat to keep, and how damp, and all the details in relation to the best methods for growing, and for what kind of potatoes is the best ground in market.—Mrs. S. A. REYNOLDS, Franklin, Ind.

About the first of April put the potatoes in a hot-bed. If they are large, split them lengthwise, laying the flat side down. They may be placed so as to touch each other; then cover about two inches deep with a light, compact made of fine sand, manure, and good soil or leaf-mold from the woods. When the sprouts push above the ground add an inch more of the compost. Water occasionally with warm water, keep the bed warm at night, and in the day give them air and sunshine to make them hardy. When ready to transplant, the sprouts may be pulled off, or the potato may be lifted out and the best plant selected and the potato be returned to the hot-bed. A bushel of seed will produce from three to five thousand plants, and every thousand plants which are set should produce 40 bushels of potatoes.

A great many Ohio growers prefer the Yellow Lebanon, or the Yellow Nemadun, on account of its robust habit, its earliness, and especially over all varieties, as its ripeness can be depended on in the season by its golden hue. It is also one of the sweetest. It thrives in a poorer class of soils, and is less exacting than any known crop.—EDITOR AMERICAN FARMER.

A Reform in Living.

EDITOR AMERICAN FARMER: Our civilized, Christian, and boastfully enlightened Nation must go down never to rise again, unless there is a reform in the way of how to live. The heathen Chinese came to this country by thousands, lived well, and had never a tramp among them. They laid up money to support them when they returned home. But our land is filled with white tramps, who live only by beggary. Yet we have millions of acres lying idle and worthless for lack of men to work them, and the prisons are full of criminals. What is the remedy for all this?—HARRIS, San Diego, Cal.

The most simple and safe remedy for a Cough or Throat Trouble is "Dr. Ross's Breachless Throat." They possess real merit.

STRAWBERRY CULTURE.

Planting by Machine—Mulching for Profit—Varieties that Do Best the Past Season.

EDITOR AMERICAN FARMER: Having planted the past season most of my strawberries by machine, I thought it would be of interest to the readers of your journal to let them know if it was a success.

I can truly say I prefer the planting machine to any other method I have tried. A great many wondered if it could be possible to plant strawberries, tobacco, cabbage, tomatoes, etc., by machine. I say yes, and water them at the same time. Well, you say, how can it be done and what does a planter cost? It would take up too much of your space to tell all about this machine, but I will give you readers some idea.

It takes two horses or mules—I use the latter—to pull it. They go very slowly at first, until the droppers get used to handling the plants. They can be planted 6, 12, 15, or 18 inches apart, or as much farther as you desire. It takes one team, the driver sitting on the machine, and two boys or men to sit behind putting in the plants. The machine has two wide wheels, and on top is a barrel holding about 50 gallons of water. There is a hose connected with the barrel, leading to the ground, where the water can be let out at the bottom of an opening that is made by a cutter to insert the plants. It opens the space, and as fast as two hands sitting on the back of the machine can straighten out the roots, and holding them in position until a shoe comes along, open in the center, and presses the dirt on each plant, not disturbing the plant in the least, and the job is done. It leaves the land level and the prettiest for cultivating and hoeing of anything I have yet seen. This machine of mine costs \$80, and I am sure it more than paid for itself this year in labor alone of planting.

Well, you say, how many acres per day will such a machine plant? This rather depends on how close you plant them in the row and how far your rows are apart. I plant strawberries from 15 to 18 inches apart in the row, according to the variety, and the rows three and a half feet apart for fruit, keeping the beds narrow. In this manner we plant about five acres per day. When the plants are planted, say, four feet apart in the row, one man would be plenty. If the rows are five feet apart, twice as many acres can be planted per day. We have a boy who gets the plants ready at the end of the row by laying them straight in a little box, these boxes the planters hold in their laps, and the machine is kept moving all the time; and this is very important at this season of the year. I think my hands will be able to do much better next season, as they will know better how to handle the machine and the plants. Anyone can see at a glance that by having a little water at the bottom of the opening and the plants put in the moist ground the instant the opening is made, and covered up, that it is almost impossible to have plants die. I did not wait for rain, but planted as soon as I was ready. If rain comes, so much the better, but your plants planted in this way will stand quite a drought, and I am confident plants planted by this machine are much surer to grow than by the old method.

MULCHING STRAWBERRIES.

Yes, the same old story every year with some—too much trouble and expense. I saw the past season fine strawberries sold for 75 cents per crate, and hard to sell at that, because they were dirty. Had the same been clean they would have sold readily for \$2 per crate. Estimating the crop at 100 crates per acre, which is small enough for many of our new varieties (old ones will yield 200 crates) we find a loss of \$125 per acre, just for the sake of spending, say, \$10 per acre for applying the mulch; besides, by mulching you keep the land moist during a dry spell, and it will be a poor year when mulching does not increase your crop 25 bushels of berries per acre, and fine berries. Growing strawberries without a mulch to keep them clean, I claim does not pay, so if you have not already done it, there is still time up to within a few days of picking, but the sooner the better. Your berries will not only be clean, but brighter. If you doubt what I say, just leave one row and see the difference.

WHAT SHALL WE PLANT?

This is rather a difficult question at this time, but I find double the money and quicker sales with the earliest and then the latest. I find Rio, Cyclone, and No Name to be the three best early varieties. The Rural New Yorker claims Rio is the best early and best quality they know of. The Ohio Experiment Station says Cyclone is quite early and continues a long time in bearing, and holds up in size quite well to the last, and it should be given a trial generally. I can fully endorse the above. No Name neither of them have tried. It is the largest of the three. I had them last year and this fully as large as Sharpless and on the average through the season, side by side, larger; no green tips. These three are not only early, but they are all good shippers, and in productivity they are simply wonderful; I have as yet to see their equal. I cannot help but think from the past three years' experience they are the three best early berries for the commercial grower and the amateur. Haverland and Bush No. 5 are grand berries, and no mistake can be made in planting them as second early. Warfield No. 2 is also grand, but they make so many plants they get too thick if the runners are not kept cut off and the berries run a little too small, but it is a grand berry in proper hands. Greenville is another grand berry and wonderfully productive, but a little too soft for shipping. Timbrell, I am sorry to say, I find of little value; it does not ripen up. Marshall

pleased me very much the past season in fruit. Edith is the largest berry I have ever seen, and is very productive; small in plant, but such berries! Samuel Miller, of Missouri, writes me it was the largest berry he grew this year; it measured some 7 1/2 x 4 1/2 inches in circumference. I think I could have beat it, but did not measure them. Muskingum is a very fine berry, almost as round as an apple, a little soft for shipping, and a little late for the top market prices. Beder Wood is a very early berry, very productive, but it does not ripen up nicely and it never looks pretty in the crate; otherwise this is a grand berry. The Lallah, so much praised as a shipping berry, may do for some, but it is very, very small and not very productive either, and I don't think it worth planting. Crescent, if well taken care of, is yet one of the best paying old varieties, owing to it being early. Tennessee Profile is a grand berry, firm, such a beautiful color and shape, wonderfully productive, and beautiful, healthy foliage. I will tell you more of some other varieties next time.—M. T. THOMPSON, Rio Vista, Va.

Food for Thought by Southern Grain Growers.

EDITOR AMERICAN FARMER: Recently a correspondent in this State asked which takes most from land, wheat or oats? He stated that his neighbors "contented" that crab grass and weeds will not grow on land when oats have been removed, or not so well after wheat.

In reply we used an old table made while at another station, showing the amount of plant food removed in a ton of wheat, wheat straw, oats, and oat straw; then supposed 20 bushels of wheat and 40 bushels of oats an average crop, and showed that with these crops the wheat would carry off three pounds more phosphoric acid and one and two-thirds more nitrogen than the oats. The oats in turn would get nine and a half pounds more potash than the wheat.

As the table referred to may be convenient for readers to compare their own crops is copied here:

FOUNDS OF PLANT FOOD IN 2,000 FOUNDS OF				
	Wheat.	Wheat Straw.	Oats.	Oat Straw.
Phosphoric acid (12 1/2%)	15.1	5.9	11.9	1.9
Potash (K ₂ O) (%)	8.8	10.8	9.8	27.01
Nitrogen (N) (%)	24.2	9.5	39.0	7.6

The reason for the above contention doubtless probably lies in the better preparation of land for wheat and the stronger feeding capacity of the oats. Farmers know that of two fields one may give a good crop of oats, whereas if sown to wheat it might fail; yet wheat, on the other, especially if helped with a little commercial manure, will give an average yield.

Now the after crops are what we wish to notice. The poor field will refuse to grow the friendly crab grass. The better field more favorably treated will be covered by crab grass, when the hot sun would otherwise scorch out much of its organic matter if lying bare.

Crab grass is a troublesome Mid- and late Summer weed. It is nimble during "dog-days." The cotton planter does not like it. Yet it makes pretty good hay if rightly managed. Hay is an article of value in the South. It costs high, though it can be grown cheap.

SUGAR IN UTAH.

Practical Success for Farmers and Factory.

The most encouraging reports come of the success of the sugar-beet industry in Utah. The Territory—or State we may as well begin to call it—consumes about 15,000,000 pounds of sugar a year. The freight on this is expensive, and vastly more so on the wheat and other products that must be sent out to pay for it. Therefore, good business ideas demanded that Utah try to raise her own sugar, and that the manufacture be carried to the last stage of refining. This has been and is being done. The very best quality of refined sugar is made at the factory at Lehi, and the yearly increase is so great as to give just expectations of its being able to soon supply all the needs of the people. The factory was started five years ago, and there is already \$700,000 invested in it, with a need of still further extension.

During the first and second years of operation the run of beets was about 10,000 tons in each season. There would have been a larger run the second year, but the planting was restricted owing to a scarcity of seed. The third year, 1893, 26,800 tons were consumed. Last year the run was about 33,000 tons, the full capacity of the works. The farmers would have planted a thousand acres more ground last Spring had it been possible to utilize the product.

The manufacturing season is limited. The beets are not ripe enough before October 1, and they cannot be used after they begin to sprout, so that practically the season ends about January 10, a continuous run of 110 days. The harvesting is completed by the middle of November, and large storage houses, frost-proof, have to be provided, into which the beets are rapidly and cheaply unloaded from wagons or cars. Two-thirds of the product is delivered by railroad. The facilities are so complete that as many as 150 cars of 20 tons each have been unloaded daily several days in succession.

Farmers have been paid in accordance with contracts for the present crop, \$5 per ton at the factory. The freight rate on railway deliveries, which has to be deducted, ranges from 35 cents to \$1.25 per ton—generally less than 50 cents. The effect of the tariff legislation will be to compel a reduction of at least \$1 per ton, and, if the improvements in culture and manufacture had not been very marked, the deduction would have had to be considerably more than that.

LOSS BY TARIFF LEGISLATION.

Had such legislation been enacted two years ago it would have destroyed the industry. As the product of beets runs from 8 to 30 tons per acre, the loss to the farmers can be readily calculated. This is a net loss, without any form of compensation.

The beets must reach a certain standard as to saccharine contents and purity, and these are almost wholly controlled by the cultivation. The first year 40 per cent. were below standard; the second year there were 30 per cent., but the company bought them, in some cases getting a reduction, but generally paying in full as a matter of justice and good policy.

The third year the farmers "caught on," and their loss was only 5 per cent. Last year there was practically no loss, all of the beets being above grade.

Improved culture is a potent factor in another direction. The beets manufactured during the first year yielded 110 pounds of sugar per ton; the second year it reached 134 pounds, the third year 153 pounds, and this year it is running from 175 to 180 pounds per ton. This is not all, perhaps, in culture; it may be in some measure due to better seed and to better weather during the ripening season. Sunshine is the great sugar producer. This fall the weather has been admirable, and the entire crop has been secured past all danger.

Constant supervision is required from the planting of the seed to the final harvest, and there is, therefore, an agricultural superintendent whose duty it is to watch every farmer's crop and to see that it is properly planted, thinned, cultivated, and harvested. Neglect in any particular results in material loss. A carefully-drawn contract is rigidly enforced.

The soil best adapted to beet culture is that of the high bench lands, where there is good drainage and natural fertility. Artificial fertilizers may be used sparingly, but there is danger of overgrowth; no beets are accepted above three and one-half inches in diameter. To the present time but little land has been fertilized artificially, and it is the opinion of Mr. Cutler that the crop may be grown continuously from five to eight years without rotation.

Planting is done by machinery, as well as cultivating, several rows at a time. The seed is planted at no greater depth than an inch, and should come up very thickly—a continuous ribbon. As the young plants begin to form root, say, the size of a lead pencil, thinning must be done without delay, and this is the most exacting and laborious work connected with the entire business.

When the crop is ready for the harvest a plow made for the purpose is run to a depth of 15 inches alongside each row, loosening the roots, so that boys follow, lifting them from the ground and throwing them into piles at convenient distances. Adhering dirt must be carefully removed to avoid deductions for tare. Another group of boys follows and cuts off the tops and the sun-burned crowns with a single stroke of a sickle-shaped knife. The beets are then gathered into sacks, which are loaded on wagons without sewing, with the open mouths to the center of the load. By following this system the work of harvesting is simplified, and the total cost, including hauling, is but a trifle more

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SHRINKAGE OF FARM VALUES.

Some Significant Statistics from Ohio.

Secretary of State Taylor has received returns from about three-fourths of the Counties in Ohio, giving the actual selling price of all the realty which changed hands during that period and the amounts of the mortgage indebtedness created during the year, as well as the amount paid.

The figures are from the County Auditors and Recorders, and are as near absolute accuracy as can be obtained. They reveal an unusual condition. For years the price of farm land in the State has been going down, but it may well be doubted if there has ever been as great a shrinkage in 12 months as that which these statistics show.

For 62 Counties reporting the total loss indicated in the lands sold, as compared with the preceding year, is about \$3,000,000. The aggregate amount of land transferred in these Counties is, in round figures, 1,000,000 acres. If this proportion is maintained throughout the 88 Counties, the entire amount of land sold in the State would exceed 1,300,000 acres, or more than one acre in every 20 in the State.

The average price at which sales were made varies widely, depending upon the location and character of the section. The lowest is in the strictly agricultural County of Vinton, which had a steady shrinkage in population for a number of years. The average there was by \$10.25 per acre. In contrast with this is Cuyahoga County, in which is the city of Cleveland, rapidly becoming the first in population in Ohio. Here \$122.72 was the average price. In a few Counties an increase is reported, but the great majority show a marked decrease.

The percentage of shrinkage runs all the way from 4 to 40, the latter being shown in Hocking County, where mining is the principal industry and strikes have affected all classes of business.

The total increase in the mortgage indebtedness of Ohio farms cannot be given exactly, but these figures afford material for a close approximation. In 15 representative Counties taken to represent every section of the State, the aggregate amount of debt cancelled was \$4,244,319, while that created was \$7,031,756, an increase of \$2,787,437. In other words, the new indebtedness was 65 per cent. greater than the old debt cancelled.

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Cider and Cider Vinegar.

The Cider and Cider Vinegar Makers' Association of the Northwest will begin its annual meeting at the Sherman House, Chicago, Tuesday, Feb. 5, and continue two days. The officers of the association are:

L. R. Bryant, President, Princeton, Ill.
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Clubs will at once be formed throughout the State, having for their motto the reduction of wages.

Mexican Cattle Men Smile.

From a report by Col. Albert Dennis, Southwestern Agent of the Bureau of Animal Industry, it is shown that from Sept. 28 to Dec. 31 last 45,890 cattle were admitted from Mexico to the United States, and it is estimated that 6,000 more have come in since Jan. 1.

Burpee's Farm Annual for 1895.

Always fresh and original, Burpee's Farm Annual for 1895 is even better than ever before. The cover is most artistic and beautiful, illustrated in 16 colors. It shows on the front an attractive bouquet of the new Sweet Peas, now so fashionable, while on the rear is a bird's eye view of Fordhook Farm, where many of Burpee's seeds are grown and where there were conducted the past season more than 6,000 trials of vegetables and flowers grown from seed. This Catalogue is really a complete book on seeds, as it contains 174 pages, besides several colored plates and special circulars. The illustrations, 400 in number, are all true to nature, being mostly engraved from photographs, while the descriptions of both new and standard seeds are noteworthy for their accuracy. Messrs. W. Atlee Burpee & Co. make the nominal charge of 10c for the Farm Annual, which is less than actual cost of publication, but will be pleased to mail a copy free to any of our readers who intend to purchase seeds this Spring. It contains much useful information which cannot be had in any other form, and we strongly recommend all who have occasion to buy seeds to consult the Catalogue of these well known Philadelphia Seed Growers.

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Clubs will at once be formed throughout the State, having for their motto the reduction of wages.

Mexican Cattle Men Smile.



Valentine.

BY L. F. S. BARNARD.
Miles stretch between us, dear, and yet I know
Your words may travel where I may not go,
So now I send
This message, and I would that I were near
To make its meaning clear,
My more than friend!

Within my mind, my heart, you have so grown
That I have come to think you all my own,
Though never yet
I have confessed and now when comes this day,
On which all lovers fond their love tale say,
Could I forget?

Not I. Thoughts crowd and jostle in my mind;
I scarce can tell which ones to leave behind.
But this I know,
That I must say I love you love few,
And dearer than all other natures are you—
These words shall go.

When you have read them, think of me awhile,
How we are parted now by many a mile;
Then write a line,
To tell me, love, and anxious, and afar,
Fond words in answer, saying that you are
My Valentine.

ABOUT WOMEN.

JENNIE MORAN, A GIRL LIV-
ing near Sedalia, Mo., is one of the
latest wonders in the electrical line.
They say that she is able to illuminate a
room with her presence, which is prob-
ably true. It takes an American girl to
be brilliant.

USAN FENIMORE COOPER, the
second daughter of James Fenimore
Cooper, died on December 31st, at the
age of 82. During her father's life she
acted as his secretary and amanu-
ensis, helping him considerably in his
literary work; and later she contributed
many articles to the periodicals and
wrote several successful books.

MISS ALICE STONE BLACK-
well has taken a deep interest in the
cause of the persecuted Armenians, and
she says that in Massachusetts alone there
are 2,000 which have come mostly from
Asia, and not from Europe and Africa,
as is commonly supposed. It does seem
as if, with this number in our midst, we
might as a people take some action in as-
sisting these suffering and oppressed
Christians.

CHRISTINA ROSSETTI, England's
sweet-voiced poetess, died during the
past month. She was a sister of the poet
and artist, Dante Gabriel Rossetti, and
has been widely known for many years,
wherever our current magazines have
found their way. Though other
writers are coming into fame, her place
among the real poets will go unfilled,
and her beautiful poems will make her
always seem to live, as does Elizabeth
Barrett Browning.

FASHION'S FANCIES.

All manner of fans are worn, from the
ermine and mink of our grandmothers
to the narrow bands of marten and sable
used to edge cloth gowns and wraps.
Narrow mink is even applied to paleo-
colored party gowns with charming effect.
Many persons are now wearing large
bunches of artificial violets attached to
their muffs or coats, but it is not good
taste to do so. They are only pretty on
one's hat, and especially so when caught
beneath the brim next to the hair.
Skirts now have seven gores, are five
yards in width and are lined all the
way up the back, and a foot and a half
in the front with hair-cloth. They are
exceedingly stylish, of course, and in
rigidity would do credit to "Old Iron-
sides."

Hats are very large, with peaked
crowns, and on the left side are piled
high with ostrich plumes, the more the
better. Pretty faces are particularly
picturesque under the plume of the
Gainsborough, but if a close hat or
toque is more becoming to one's counte-
nance, why wear a Gainsborough?
Every woman should possess a num-
ber of velvet or even velveteen collars
of all hues. They enhance a much-
worn gown wonderfully. They are no
trouble to make, either. Cut a bias
piece long enough to reach about the
throat and lap an inch, and wide
enough to be three inches high after it
is shirred. Hem the ends, and gage half
an inch from each end. This leaves a
little frill to stand out. Line with can-
vas or jute, and fasten with small hooks
and eyes.

Waists.

With two or three daintily-made silk
waists one may always be prettily dressed,
for they may be worn with the plain
wool skirt to one's street gown, and are
much more becoming for the house than
a whole cloth suit. There are endless
ways to plan them and trim them. Some
have dainty yokes with rows of
shirring running across, or up and down,



Have a Hanging Basket.

There is something cheerfully pretty
about a rustic hanging basket with its
growing plants, and it is easy to make
one out of material collected on pleasant
days, if one walks where she can find
bark and branches. Make the basket
any desired shape, but not too shallow.
The main difficulty is in keeping the
plants well watered, and the best plan is
to take a small tin can, make several
very small holes in the bottom and sink
the can in the hanging basket, where it
will be concealed by the plants and vines.
Keep this filled with water and allow it
to slowly escape through the openings.
The daily watering, or even once in
every two or three days, will then be
sufficient, and instead of a dry, baked
soil, soon after the water is supplied, it
may be kept constantly moist.

Household Hints.

Water on the hair is apt to make it look
rusty, to turn it gray, and to give it a bad
odor. If you are threatened with dryness of
the scalp, and if you are obliged to wet your
hair in order to make it stay in place, a little
vaseline rubbed in the roots will prove bene-
ficial.

If your furniture is dull and needs its luster
restored, try a polish made from two parts of
raw linseed oil and one of turpentine. Mix
thoroughly by shaking, apply a thin coat with
a flannel cloth and rub thoroughly and briskly
with a dry cloth. This polish is said to be
used by furniture dealers.

Somewhere has remarked that the motto of
Chauncey Depew, or, rather, his "key to suc-
cess," wouldn't be a bad one to put up in
every room in the house, and on the wall of
every business office. It is "Stick, Dig, Save,
and as it has brought him wealth and
honor, it can do the same for others. Cer-
tainly, it is a good motto for a housekeeper
whose means are small and worries many.

In the kitchen of a careful woman not a
scrap of bread, a bit of meat, spoonful of
potato, a drop of milk, ever goes to waste.
She knows to the yolk of an egg just how
much is needed to make a cake for four per-
sons, or an omelet for six, and she does not
throw in an extra one for good measure; for
that would be wasteful, and, besides, make
the omelet or cake a failure. The extra egg
will cost two cents only, but it will make a
sufficient dressing for a salad, an addition to
a school lunch, an appetizer for a sick mem-
ber of the family, clear the coffee for two or
three days, finish the recipe for a pan of
muffins, a dish of hot cakes, a dip for chops,
and though it does cost but two cents, it
is the use of it extravagantly empties the egg
basket it may leave her in the lurch just at a
time when she needs just one egg, and has to
prepare a much more expensive dish just be-
cause one egg is not obtainable in time. So
it is with waste everywhere in the culinary
department.

Never salt before cooking any meat that
you are going to boil or fry; it draws out the
juices which constitute the nutriment of the
meat. Never stick a fork in a piece of meat
that you are roasting, broiling or frying, as
that breaks the outside searing, and lets the
juice escape. The whole method of cooking
beef, unless for the express purpose of ex-
tracting the essence, is to retain all the juices.



Wooden Bread.

A German periodical devoted to wood
industries announces that food products
consisting partly of wood are now manu-
factured. At Berlin a factory has been
built which is turning out about 200
quintals of wooden bread a day. Saw-
dust is subjected to chemical treatment,
after which it is mixed with one-third
farina and prepared like ordinary bread.
The product at present serves only as
food for horses, but the Berlin Tramway
Company, which is the most important
customer of the factory, is well pleased
with the results. The manufacturers
say that wooden bread constitutes also
an excellent food for man.

WOMAN'S WISDOM.

Her Way of Doing.

EDITOR FARMHOUSE: I find my plan for
washing heavy quilts and comfortable as a
good one.
Put them on a clean floor and with a
broom scrub them. I can see just where the
most soiled places are and soap them; I fold
and turn them, and when I think they are
clean take clear water and rinse, using the
broom vigorously.
I then fold and press all the water out that
I can get out with my hands, and lay it on the
grass, in the sunshine, right side up.
This method preserves the cotton better
and breaks less stitches than any other way I
have ever tried.

My husband recently killed what had all
symptoms of being a felon by keeping the
diseased finger well soaked with turpentine.
He put the turpentine in a wide mouthed
bottle and held his finger in it. After several
days the finger looked so red he polished it
with bread and milk. Keep using the turpen-
tine until every symptom of felon is gone.

I find that baked fruits are much nicer for
canning than boiled ones.

I bake my tomatoes and they are fine—
Oregonian.

MORE BOOK TALK.

A Kansas Girl Shows Her Good Taste
in Literature.

EDITOR FARMHOUSE: I was reading an
interesting article in your paper recently on
books and authors, and I thought I should
like to say a few words on the subject. I
think the reading of books has an influence
over us, either for good or bad, perhaps more
influence than we realize, and like our associ-
ates, should be well chosen and considered.
I would prefer a small library of choice books
to a large one filled up with any and every
book that may come to hand.

Some parents would not allow their son to
associate with a certain boy because he is too
rough. He smokes, plays cards, perhaps,
and does many other things they would not
like their son to do; and I do not blame them.
Yet, they will say nothing to him about read-
ing the doings of Jesse James, exciting
pirate stories, or the Saturday Blade. I do
not approve of novel reading. I think it
means the means of a great many of our
reading a novel will read it through for the
story part, and not pay any attention to the
description of the scenery or the manner in
which it is gotten up, and after it is read will
not try to remember it. If we get into the
habit of reading so much fiction and light
reading we will not care for any other kind,
or get interested in anything that requires
deeper thought.

In fact, I think novel reading is injurious
for the young especially. Children should be
encouraged in reading good books, such as the
Bible, histories of our Nation, and of great men.
Any child reading the life of Abraham Lin-
coln or James Garfield will have a higher am-
bition, a desire to be something more than
common. Parents should be careful about the
books their children read. The future
strength of our Nation depends upon the chil-
dren of to-day. It is surprising how little
many professed Christians know about the
Bible. It contains 1,179 chapters, and any
ordinary person could read it through in a
year. Yet, how many young people have
never read the Bible through from beginning
to end? Now, at the beginning of a new year,
it would be a good plan for us to begin at
Genesis and read the Bible through. The
time we spend in reading it will not be lost.
Among the books I have read my favorites
are: "Ben Hur," by Lew Wallace; "Pilgrim's
Progress," by John Bunyan; "My Story of
the War," by Mary Livermore; "Prince of
the House of David," and Tennyson's and
Longfellow's "The Courtship of Miles
Reynolds," and "The Courtship of Miles
Reynolds," but did not understand it. I
think this is an interesting subject to
write about, and would like to hear
from others.—LUNETTE LEWIS.

A ROUGH EXPERIENCE.

But two Young People would not Give
up the Fight.

DEAR FARMHOUSE: 'Tis some time since I
have written you a letter, and now, while the
snow is three and four feet deep, I must tell
you how much I appreciate your cheery
note to me last Western home. How nice
to be able to talk to some kindred and sensible
sisters, when our own nearest neighbors,
very often, at least, on account of the
deep snows. I want to tell you all that I
have had much experience of hard times,
though, as I stated before, I am but 24. My
husband and I were 16 and 22, respectively,
when we started on life's journey. One year
after, we saw the farm we now own, and at
once concluded that to be independent and
comfortable we must become farmers, and as
this place had all the good points needed,
different kinds of soil and plenty of water,
we immediately filed a "homestead" on it.
Well, we took up our new quarters and planted
a small garden and five acres of oats, all the
seed we were able to get; but we had no
money to buy wire, and the wild cattle
were right through our humble pole fence,
and by the hundred at that, and so Mr. W.
took his blankets, Western style, and slept in
the field to keep them out; but one day we
all left home in answer to a sick-call, and a
band of 40 head of cattle, belonging to a rich
neighbor, broke in and ate our little crop.
We then had chained our own cow to pre-
vent her bothering that neighbor; so we had
to move to the mines that winter. Mr. W.
too a big wood contract and was hauling with
our one team when one of our beasts got
down in the snow and there they lay. They
had one left; but, not discouraged, Mr. W.
went to gold mining at \$3.50 a day; but as
provisions and rent were high, we had a
struggle to get by and need for 10 acres
of oats and some garden seeds.

Well, we moved back to the place in the
Spring and put up a good fence and put in
our crop, my husband getting the use of a
mare for "breaking" her. While the garden
and grain were flourishing, doing even better
than we had hoped, our humble pole fence
for our "one time," we have the beast to-
day; then Mr. W. began breaking ground
and looking forward to a bountiful harvest,
but soon news came that the grasshoppers
were swarming on the prairie, and, sure
enough, just when our vegetables were fit for
table use they came. Only those who have
been in grasshopper regions would believe me
when I say one would shut one's mouth for
fear of breathing them, and would mash at
one step all that the foot could cover.

We cut the grain for hay, but before we
could get it stacked, the cocks were nothing
but their bulk in these insatiable insects.
So we put out our team and one cow to
winter, and moved to the mines, and again
returned and put in our crop; again it was
destroyed; again we braced up, and, encouraged
by the favorable predictions of old farmers,
we planted a bigger crop of grain and bigger
garden the fifth Summer, and when they
were being harvested, our humble pole fence
was scarce, and we easily disposed of our
vegetables, and saved enough to buy two
cows and two pigs, and the next season
we did not move away.

We planted 30 acres of grain and a big
garden. Then a new alarm was raised, and the
country, free of one pest, was covered by
crickets as large as mice and just as de-
structive.

Now we again saw the ground here as be-
fore we tilled at tilling it. This was re-
peated twice the second year. Not a crop
was raised in the whole country, and the
poor farmers had to give up the fight and
seek pastures new. We found ourselves
among the very few "who had fought the

good fight," and was still hoping for a time
when we could get the crops we put in. But,
dear friends, our fund of hope and resistance
were very low when relief came, and last
year we raised our first crop, and now
we have cows and six pigs, work animals, and
are getting one and a half dozen eggs a day,
selling them at 40 cents a dozen; butter, at
60 cents a roll. It is proven that this coun-
try is at last free from pests, and the farmers
are happy as a king. I write this to encour-
age all young people to believe the old motto:
"Try, try again," and "a rolling stone
gathers no moss." But, will some one please
tell me how to make good cucumber pickles,
so they will be green and brittle like our
grandmother's, and some day I will tell
you how to make the finest, whitest bread
from any kind of flour.—MRS. SAM WILLSON,
Humphreys, via Hailey, Idaho.

SICK-ROOM COOKERY.

Invaluable Recipes From a Hospital
Nurse.

EDITOR FARMHOUSE: In my capacity as
nurse, going about from home to home, I have
always found the mothers and wives not only
willing but anxious to learn anything per-
taining to the care of their sick. But it is
truly surprising that a subject of such impor-
tance and in which the nurse is so directly
interested—that of sick-room cookery—should
be so neglected. A great number of recipes
for invalids can be found in books and papers;
many are reliable, but many are not.

You may rely on every one of the follow-
ing, for I have tried them all many times,
always with success, and I have taught them
in my cooking lessons while in training as a
nurse at the hospital. In an article so limited
as this I cannot mention one-tenth of what I
would like, but will begin, as the patients
usually do, with the gruels.

FLOUR GRUEL.

(Mrs. Lincoln.)

Mix two teaspoonfuls of flour and one salt-
spoonful salt, make into a thin paste with a
little cold water, then stir it into one cup
boiling water. Cook 15 minutes. Dilute
with milk; strain. A half-inch stick of cin-
namon may be boiled with it if desired; the
spice will still further reduce the laxative con-
dition. Gruels should be sweetened slightly.
If at all stomachic, rice-cake gruel and arrow-
root gruels are made in a similar manner.

MILK GRUEL.

Mix one tablespoonful flour into a smooth
paste with a little cold milk. Pour this into
one pint boiling milk. Cook 20 minutes and
strain. Season to taste with salt. A cup of
chopped raisins may be boiled in the milk for
a change.

INDIAN MEAL GRUEL.

(Mrs. Lincoln.)

Mix one tablespoonful flour, two tablespo-
onfuls cornmeal and one teaspoonful salt; make
into a thin paste with cold water; stir it into
one quart boiling water; boil 20 minutes,
stirring often; thin with milk and cream.
Milk may substitute for water by using a
double boiler.

CRACKER GRUEL.

Roll one cracker fine; add one cup water,
one cup milk, and one-half teaspoonful salt;
let it come to a boil. Thin with milk if
necessary.

OATMEAL GRUEL.

(Mrs. Lincoln.)

Two tablespoonfuls oatmeal, one tablespo-
onful salt, one quart boiling water. Boil one
hour. Strain and serve with milk or cream.

TOAST.

Bread is toasted, dried and browned before
the fire to make it digestible and palatable by
extracting the moisture. If the slices are cut
thin, the toast is not cooked, and is a soft
roll into a soft pulp, into which the gastric
and other digestive fluids cannot penetrate.
It is better to have it dry and then moistened
with milk or water, than to have it doughy.

WATER TOAST.

Toast the slices of bread until very dry and
a light-brown, dip in salted, boiling water
quickly. Spread with butter and serve.

MILK TOAST.

Scald one cup of milk; melt one-half table-
spoonful butter in a saucepan. When hot and
bubbling add one-half tablespoonful corn-
starch. Pour in the hot milk, slowly heating
continually until smooth. Boil up once; salt
to taste; toast the bread, dip, and let it re-
main five minutes. Serve.

Cream toast is made the same way, using
cream in place of milk.
Probably the most digestible form in which
to cook potatoes is to bake them. Break the
skins and allow the steam to escape before
serving.
Many things affect the digestibility of the
food, but we can only speak of the cooking
in this article. An easy boiling makes
meat tender and digestible. Hard boiling
toughens meat. Steaming is long-continued
boiling. Roasting is very desirable, if done
in a proper way, held directly over the fire.
What is commonly called roasting is really
baking. Broiling is done in thin slices, a
most excellent way. Baking is very objection-
able. Frying is worse, as the coagulated fat
forms a crust which is indigestible. Soups,
borts and beef tans should not be strained,
as most of the nourishment is removed by that
process.

BEEF TEA.

One pound of lean meat cut in small pieces.
Let stand with one cup cold water in a
jar one-half hour. Then place jar in kettle of
cold water. Heat slowly almost to boiling
point. Keep this temperature for two hours.
Strain, press thoroughly, and season with salt.

BEEF EXTRACT.

Same as the tea, less the water.
RAW BEEF SANDWICHES.
(Mrs. Lincoln.)
Scrape raw beef fine, season with salt and
pepper, and spread on thin slices of bread.
Put together for sandwich.—MRS. M. M.
JONES.

EXCHANGE.

Miss M. Alice Donahoe, Winchell's, N. Y.,
writes: "I would like to exchange Tolstoi's
"My Husband" and "Evan Illich" com-
bined. 2. "The Career of a Nihilist," by Se-
rgius Stepniak. 3. "The Mystery of Colde
Fell," by Charlotte M. Bransome. 4. "His
Second Wife," by Miss Bradton. 5. "Gul-
liver's Travels." 6. "Esop's Fables." 7.
"Pretty Miss Smith," by Warden. 8. "A
Russian Gypsy," by Alexander Dumas. 9.
"King Solomon's Mines." 10. "She." 11.
"Cleopatra," by H. Rider Haggard. 12.
"Peg Woffington," by Charles Reed.
These books are all bound in paper. I would
like to exchange them for those bound the same,
or would give two or three of these for one in
cloth. I would like to exchange for the fol-
lowing books, or if they haven't them please
send in their list: "Little Lord Fauntleroy,"
"The Woman in White," "Lady Audley's
Secret," "Gentlemen," "A Ship that Pass
in the Night," "Robert Elsmere," and "The
Heavenly Twins," or any by Edna Lyall,
Mary J. Holmes, Caroline Lee Hentz, E. P.
Roe, Rosa N. Carey, and William Black.
Postage to be paid by owner of the book. I
will pay postage on those I send.

FREE TO INVALID LADIES.

Now we again saw the ground here as be-
fore we tilled at tilling it. This was re-
peated twice the second year. Not a crop
was raised in the whole country, and the
poor farmers had to give up the fight and
seek pastures new. We found ourselves
among the very few "who had fought the

CORN FLOUR.

Mrs. Rorer Gives a Number of Recipes
for its Use.

Corn flour can be used in the place of
wheat flour, or it may be used half and
half.

CORN MUFFINS.

Separate two eggs, beat the yolks, and
add to them one cup of milk; add a
teaspoonful of melted butter; stir in
a cup of corn flour, one cup of cold
boiled rice, and a half cup of wheat flour;
add a half teaspoonful of salt, a tea-
spoonful of baking powder; then stir in
the well-beaten whites of the eggs; bake
in a quick oven in gem pans, 20 minutes.

CORN FLOUR BREAD.

Put into a farina boiler one pint of
milk; when it is scalding hot, pour it
over one pint of corn flour, adding boil-
ing water until you have it the consis-
tency of mush; return this to the
farina boiler and allow it to cook for 20
minutes, stirring and adding boiling
water as it thickens. In all, you should
use one pint of milk and one of water.
Add a teaspoonful of salt, and when
lukewarm add one yeast cake dissolved
in two teaspoonfuls of lukewarm water.
Stand it aside until very light. Now
add sufficient wheat flour to make this
into a dough that you can knead upon a
board. When you have it well kneaded
put it back into the bowl and stand
aside until it has doubled its bulk; then
mold into loaves; put each in a greased
pan, and, when light again, bake as you
would ordinary bread. This bread will
keep moist for almost a week, and should
be fine-grained and white.

CORN-FLOUR PUDDING.

Moisten two tablespoonfuls of corn
flour with a little cold water; pour over
one pint of boiling water; cook over the
fire for about five minutes. Take from
the fire; add a half cup of sugar and the
well-beaten whites of three eggs; turn
this into a mold and stand in the cold.
Beat the yolks of the three eggs with
four teaspoonfuls of sugar; add to them
one pint of scalding milk, cook for just a
minute, add a teaspoonful of vanilla,
and stand away also to cool. Serve the
pudding turned out on a dish with the
custard around it.—Exchange.

Home Table.

APPLE TARTS.

Make a plain pie-crust with butter
and sour milk, molding quite stiff. Roll
thin; cut in square pieces about four
inches; put a dessertspoonful of sifted,
sweetened and spiced apple in each.
Fold over, wet the edges with milk, and
press together. Dampen the crust with
sweetened milk. Bake on buttered tin
in a quick oven. Eat cold with cream.

INDIAN PUDDING.

One quart of milk put on in double
boiler, or one pan inside another with
water in to prevent burning; four table-
spoons of Indian meal wet with a pint of
milk; let stand, and when cold, add two-
well-beaten eggs, four tablespoonfuls of
molasses, the same of sugar, a teaspoon
of cinnamon. Bake two hours or until
firm. Very good.

GRAHAM PUDDING.

One and one-half cups of graham
flour, one-half cup of buttermilk, one-
half cup of molasses, one egg, a spoonful
or two of cream, one-half teaspoon of
soda, and one-quarter teaspoon of cinna-
mon, some kind of dried fruit or raisins;
steam nearly two hours. To be eaten with
sugar and cream.

APPLE CUSTARD PIE.

Beat the yolk of an egg and one-half
a cup of sugar until very light, then stir
in one cup of apple sauce; flavor with
lemon extract. Bake with one crust in
a quick oven. Make a meringue of the
whites of the eggs, and brown lightly.

CREAM PIE.

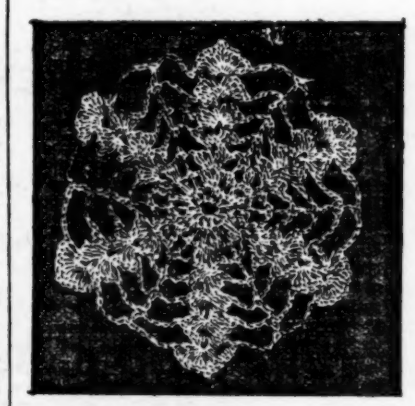
Beat together one egg, one-half a cup
of sugar, three teaspoonfuls of cornstarch,
and one-half a cup of cream. Stir all
together. Warm two and one-half cups
of milk; mix with the other ingredients,
and bake like custard pie.



[Contributions solicited from all readers.—Ed.]

SPIDER-WEB TIDY.

Chain 6, and join 12 de in ring, fasten to
first one with w, ch 3, 3 de between first and
second st, ch 1, 3 de in same st, ch 1, 1 de be-
tween next two, ch 1, shell between next two
and so on around until you have six shell,
fasten with sc, next time around put two



more stitches in shell, and as you enlarge the
shell, lengthen the chain between the shell.
Keep on with this process until there is 14
stitches in shell, and 12 de in the chain. This
completes one web; 37 of them make a small
tidy. On the first web sew six around the
outside, then 12 around the side, and 18 around
the 12. Take fine thread and needle for sew-
ing together, sew with buttonhole stitch.
With a little patience this may be sewed as
as not to show, and is very pretty when com-
pleted. It may be worked in crochet cotton
No. 40, or cotton thread No. 30, any color de-
sired.—ELLEN A. CLAUDE, Sherburn, Minn.

Put a sassafras root in your cupboard
It is a sure remedy to keep away ants.

A WATCH GIVEN AWAY TO EVERYBODY.

A Premium Offer that Breaks the Record.

READ CAREFULLY OUR OFFER BELOW.

Every Word of the Statement is Absolutely True,
Though Hard to Believe.

Think of it! A Stem-Wind and Stem-Set Watch Guaranteed a Perfect Time-
keeper that Will Not Cost a Cent.



HOW TO GET IT.

We do not sell this watch without the paper, and no one can secure one of
these splendid timepieces by itself.
We will send this watch for a period of 30 days by mail to any person who
will send us a

CLUB OF ONLY EIGHT YEARLY SUBSCRIBERS

to THE AMERICAN FARMER.
Understand that you pay nothing for the watch, but send us eight names
and addresses of subscribers to THE AMERICAN FARMER with the name of
each subscriber, who will receive the paper for one year, postage, and we will
send you the above-described watch and chain, postage, to your address ab-
solutely free of charge.
No one therefore need be without a watch equal for keeping time to any
other watch of the kind. Indeed, it will not take a day for anyone to get up this small club of
only eight subscribers at \$50 each for the best family newspaper in the United States.
Try it, and see for yourself how easy it is. Remember that this offer is only open for 30 days, so do not lose
time in getting up your club.
If anyone is unwilling to spare even the little time required to get up the club, we will send the watch and
chain with THE AMERICAN FARMER for one year to any one address for \$2.

REMEMBER

We do not care to dispose of the watch with single subscribers, but our object in this unparalleled offer is
to give the watch free to our friends who will raise the club of eight, because we want THE AMERICAN FARMER
to be the shining star in every farmer's home in the country. To accomplish this we are willing to make
the sacrifice which this offer entails.

DO NOT LOSE TIME,

but attend to this matter the very next day after you receive this offer.
THE AMERICAN FARMER, Washington, D. C.



This Book is Finely Illustrated, printed on superior plate paper, bound in cloth, and in-
teresting and instructive from beginning to end. Among the many subjects treated are:
Incubation in Egypt, with illustrations, Good Incubators, How to Choose an Incubator,
Best Size Incubator, Hot Air or Hot Water, Regulators, Marking



FRANCIS E. WADLEIGH.

1

In Florida will be devoted to the industry, for the wine in a few bottles which had managed to escape, being affected by the many evils which appear to surround the liquor and prevent its maturing, is said by connoisseurs who tasted it to be a revelation of delight to the palate."—*Washington Star*.

It is estimated that three and a third millions acres of arid lands in South Dakota have been reclaimed by irrigation, at a low cost. The value of these lands before irrigation was estimated at

